MIL-DOT RETICLE

Developed in the late 1970's, the MIL- DOT was designed to help the United States Marine Corps. (specifically the snipers) estimate the range or distance between the target and the shooter.

The space between the centers of the dots equal 1 milliradian. (mil) One Mil equals 3.6 inches @ 100 yards or 36 inches @ 1000 yards

To use the MIL-DOT system effectively you must precisely estimate the size of the target. Example: Lets say an average bear is 6 feet tall. The bear is covered by 4 mils in your reticle. Convert the bear's 6 feet to yards. After converting you should be left with 2 yards. Multiply the 2 yards by 1000 yards, (average power of scope) you should be left with 2000 yards. Divide 2000 yards by the number of mils that covers the bear (4 mils) it will equal out to 500 yards. Those 500 yards are the distance between you and the bear. (below is a formula for calculating the range with your Mil-Dot Reticle and below that is a table of mils)

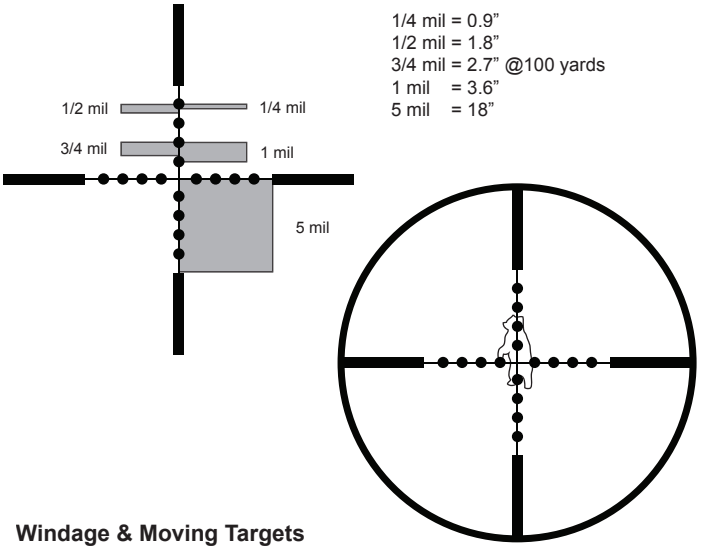
$$\frac{\text{Height of target (yards)} \times 1000}{\text{Height of target}} = \text{Range (yards)}$$

It is important that you estimate the height of the target is correct. The slightest size difference can throw off the range. A good way of knowing the height of objects is by training on your spare time.

Here are some suggestions, to increase your range estimation skills

- Build targets of known dimensions such as 1 yard squares and number them so that the targets can be seen from a distance.
- Now place the targets at various ranges making sure that the targets are visible from the start point.
- Return to the start point. With a notepad, number left side of the pad with the number of targets you have put out.
- Look at the targets you have put out and determine the range with the naked eye. Write down this figure on your note pad next to the corresponding target number. This will help you develop your eye skills and assist you in estimating range by optics.
- After your finished determining the range with the naked eye, establish a stable shooting position with your unloaded rifle or mil dot equipped spotting scope.
- Use the formula listed below to determine range. Using an odometer or a measuring wheel determine the actual range to the targets.
- Compare the actual range between using a measuring wheel, naked eye and using mils.

$$\frac{\text{Height of target (yards)} \times 1000}{\text{Height of target}} = \text{Range (yards)}$$



Windage & Moving Targets

It is possible for you to use your Mil-Dot scope for calling wind, this requires practice and the same goes for moving targets. Moving targets are an extremely difficult task. By practicing and attending competitions, even as an observer, will help you develop the skills for using your Mil-Dot scope. Watching and asking experienced shooters with the wind, and moving objects, will help you become stronger at using the Mil-Dot for windage & moving targets.

This skill is extremely difficult, as well as difficult to train. However, if you have the means of making a moving target in an area where you can train you should do so at every opportunity.
Here are some suggestions on moving targets

- Start with slow speeds and then build speed as skill increases. Do not increase target speed until you can hit them 90% or better all of the time.
- Use a target size that at a minimum replicates the kill zone of your intended target. In the beginning, a larger target should be used to show hits to allow you to adjust your leads/actions.
- Begin training at close ranges, (50yards) and increase as your skills increase.
- You should use a partner slightly behind your shoulder with a spotting scope and looking for a bullet trace and provide you with the feedback as to where the bullet is landing

TABLE OF MILS FOR OBJECTS IN INCHES

INCHES		9	12	16	18	20	22	24	28	32
YARDS		0.25	0.333	0.444	0.5	0.558	0.611	0.667	0.778	0.889
MIL	1	250	333	445	500	5556	611	667	778	889
MIL	1.5	167	222	296	333	371	407	445	519	593
MIL	2	125	167	222	250	278	306	334	389	445
MIL	2.5	100	133	178	200	222	244	267	311	356
MIL	3	83	111	148	167	185	204	222	259	296
MIL	3.5	71	95	127	143	159	175	191	222	254
MIL	4	63	83	111	125	139	153	167	195	222
MIL	4.5	56	74	99	111	1124	136	148	173	197
MIL	5	50	67	898	100	111	122	133	156	178
MIL	5.5	45	61	81	91	101	111	121	141	162
MIL	6	42	56	74	83	93	102	111	130	148
MIL	6.5	38	51	68	77	56	94	103	120	137
MIL	7	36	48	63	71	79	87	95	111	127

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